

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Douglas J. Jolly et al.

Serial No.: to be assigned

Group Art Unit: to be assigned

Filed: December 30, 1997

Examiner: to be assigned

For: METHODS FOR ADMINISTRATION OF RECOMBINANT GENE
DELIVERY VEHICLES FOR TREATMENT OF HEMOPHILIA AND
OTHER DISORDERS

DECLARATION UNDER 37 CFR §1.821(f)

Assistant Commissioner for Patents
Washington, D.C. 20231

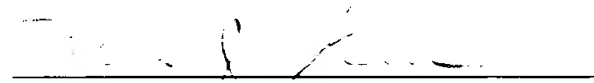
Sir:

I hereby state that the content of the paper and computer readable copies of the Sequence Listing, submitted in accordance with 37 C.F.R. §1.821(c) and (e), respectively, are the same.

I hereby declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both (18 USC 1001), and may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

By:


Norman J. Kruse, Ph.D.
Attorney for Applicants
Reg. No. 35,235

December 31, 1997

CHIRON CORPORATION
Intellectual Property - R440
P.O. Box 8097
Emeryville, California 94662-8097
(510) 923-3520
(510) 655-3542 (fax)

This Raw Listing contains the General Information Section and those Sequences containing ERRORS.

SEQUENCE LISTING

Does Not Comply
Corrected Diskette Needed

(1) General Information:

(i) APPLICANT: Chiron Corporation

(ii) TITLE OF INVENTION: Methods for Administration of Recombinant Gene Delivery Vehicles for Treatment of Hemophilia and Other Dis

(iii) NUMBER OF SEQUENCES: (83) 46 shown (p.16)

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Chiron Corporation
(B) STREET: 4560 Horton Street
(C) CITY: Emeryville
(D) STATE: California
(E) COUNTRY: U.S.A.
(F) ZIP: 94608

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER:
(B) FILING DATE:
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Kruse, Norman J.
(B) REGISTRATION NUMBER: 35,235
(C) REFERENCE/DOCKET NUMBER: 1155.005

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (510) 923-3520
(B) TELEFAX: (510) 655-3542

↑
insert last
return - All
text must
be visible on
page

Please Note:
This file was
not saved in
ASCII (DOS) text,
required by
Sequence Rules;
Please ensure
corrected disk file
is saved in ASCII
text, or the PTO
will not process it.

ERRORED SEQUENCES FOLLOW:

RAW SEQUENCE LISTING

PATENT APPLICATION US/09/001,039

 DATE: 02/10/98
 TIME: 11:36:47

INPUT SET: S23358.raw

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103 (2) INFORMATION FOR SEQ ID NO:7:
104 (i) SEQUENCE CHARACTERISTICS:
--> 105 (A) LENGTH: 77 base pairs
106 (B) TYPE: nucleic acid
107 (C) STRANDEDNESS: single
108 (D) TOPOLOGY: linear
109 (ii) MOLECULE TYPE: DNA (genomic)
110 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
111 AGTGAATTCG AGCTCGGTAC CCGGGGATCC TCTAGAGTCG ACCTGCAGGC
--> 112 ATGCAAGCTT 60
113 GCGGTAATCA TGGTCAT
114

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format error

260

77

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188 (2) INFORMATION FOR SEQ ID NO:15:
189 (i) SEQUENCE CHARACTERISTICS:
--> 190 (A) LENGTH: 8332 base pairs
191 (B) TYPE: nucleic acid
192 (C) STRANDEDNESS: single
193 (D) TOPOLOGY: linear
194 (ii) MOLECULE TYPE: DNA (genomic)
195 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:
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--> 198 AACCTCTTG 60
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200 CAGTTGCATC CGACTTGTGG TCTCGCTGTT CCTTGGGAGG GTCTCCTCTG
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203 TACCCGTCAG CGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCGGGAGA
--> 204 CCCCTGCCCA 180
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206 GGGACCACCG ACCCACCACC GGGAGGTAAG CTGGCCAGCA ACTTATCTGT
--> 207 GTCTGTCCGA 240
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--> 210 CTAAGTAGCT 300
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--> 213 GCAACCCTGG 360
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215 GAGACGTCCC AGGGACTTCG GGGGCCGTTT TTGTGGCCCG ACCTGAGTCC
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218 ATCGTTTTTG ACTCTTTGGT GCACCCCCCT TAGAGGAGGG ATATGTGGTT
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221 ACGAGAACCT AAAACAGTTC CCGCCTCCGT CTGAATTTTT GCTTTCGGTT
--> 222 TGGGACCGAA 540
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--> 225 CTGACTGTGT 600
226
227 TTCTGTATTT GTCTGAGAAT ATGGGCCAGA CTGTTACCAC TCCCTTAAGT

```

Same

✓

Explanation of error that occurred throughout the Sequence Listing:

For all of your nucleic sequences, the nucleic number at the end of each line "wrapped" down to the next line. This occurred if your file was retrieved in a word processor after creating it in PatentIn. Your word processor probably has different margin settings than those used in PatentIn. (A right margin set at least to .3 in your word processor will prevent wrapping)

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:36:49

INPUT SET: S23358.raw

--> 228 TTGACCTTAG 660
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230 GTCAGTGGAA AGATGTCGAG CGGATCGCTC ACAACCAGTC GGTAGATGTC
--> 231 AAGAAGAGAC 720
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233 GTTGGGTTAC CTTCTGCTCT GCAGAATGGC CAACCTTTAA CGTCGGATGG
--> 234 CCGCGAGACG 780
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236 GCACCTTTAA CCGAGACCTC ATCACCAGG TTAAGATCAA GGTCTTTTCA
--> 237 CCTGGCCCCG 840
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239 ATGGACACCC AGACCAGGTC CCCTACATCG TGACCTGGGA AGCCTTGGCT
--> 240 TTTGACCCCC 900
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245 CGTCTCTCCC CTTGAACCT CCTCGTTCGA CCCC GCCTCG ATCCTCCCTT
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248 TCACTCCTTC TCTAGGCGCC AAACCTAAAC CTCAAGTTCT TTCTGACAGT
--> 249 GGGGGGCCCC 1080
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--> 252 CCCCTTCCG 1140
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254 ACAGGGACGG AAATGGTGGA GAAGCGACCC CTGCGGGAGA GGCACGGAC
--> 255 CCTCCCCAA 1200
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257 TGGCATCTCG CCTACGTGGG AGACGGGAGC CCCCTGTGGC CGACTCCACT
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260 CATTCCTCCT CCGCGCAGGA GGAAACGGAC AGCTTCAATA CTGGCCGTTC
--> 261 TCCTCTTCTG 1320
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263 ACCTTTACAA CTGGA AAAAT AATAACCCTT CTTTTTCTGA AGATCCAGGT
--> 264 AACTGACAG 1380
265
266 CTCTGATCGA GTCTGTTCTC ATCACCATC AGCCACCTG GGACGACTGT
--> 267 CAGCAGCTGT 1440
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269 TGGGGACTCT GCTGACCGGA GAAGAAAAAC AACGGGTGCT CTTAGAGGCT
--> 270 AGAAAGGCGG 1500
271
272 TGCGGGGCGA TGATGGGCGC CCCACTCAAC TGCCCAATGA AGTCGATGCC
--> 273 GCTTTTCCCC 1560
274
275 TCGAGCGCCC AGACTGGGAT TACACCACCC AGGCAGGTAG GAACCACCTA
--> 276 GTCCACTATC 1620
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278 GCCAGTTGCT CCTAGCGGGT CTCCAAAACG CGGGCAGAAG CCCCACCAAT
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RAW SEQUENCE LISTING
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TIME: 11:36:52

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--> 285 ACTAATGTGT 1800
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287 CTATGTCTTT CATTTGGCAG TCTGCCCCAG ACATTGGGAG AAAGTTAGAG
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289
290 ATTTAAAAAA CAAGACGCTT GGAGATTTGG TTAGAGAGGC AGAAAAGATC
--> 291 TTTAATAAAC 1920
292
293 GAGAAACCCC GGAAGAAAGA GAGGAACGTA TCAGGAGAGA AACAGAGGAA
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295
296 GCCGTAGGAC AGAGGATGAG CAGAAAGAGA AAGAAAGAGA TCGTAGGAGA
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299 TGAGCAAGCT ATTGGCCACT GTCGTTAGTG GACAGAAACA GGATAGACAG
--> 300 GGAGGAGAAC 2100
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302 GAAGGAGGTC CCAACTCGAT CGCGACCAGT GTGCCTACTG CAAAGAAAAG
--> 303 GGGCACTGGG 2160
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305 CTAAAGATTG TCCCAAGAAA CCACGAGGAC CTCGGGGACC AAGACCCCAG
--> 306 ACCTCCCTCC 2220
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308 TGACCCTAGA TGACTAGGGA GGTCAGGGTC AGGAGCCCCC CCCTGAACCC
--> 309 AGGATAACCC 2280
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311 TCAAAGTCGG GGGGCAACCC GTCACCTTCC TGGTAGATAC TGGGGCCCAA
--> 312 CACTCCGTGC 2340
313
314 TGACCCAAAA TCCTGGACCC CTAAGTGATA AGTCTGCCTG GTCCAAGGG
--> 315 GCTACTGGAG 2400
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317 GAAAGCGGTA TCGCTGGACC ACGGATCGCA AAGTACATCT AGCTACCGGT
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320 ACTCTTTCCT CCATGTACCA GACTGTCCCT ATCCTCTGTT AGGAAGAGAT
--> 321 TTGCTGACTA 2520
322
323 AACTAAAAGC CCAAATCCAC TTTGAGGGAT CAGGAGCTCA GGTATGGGA
--> 324 CCAATGGGGC 2580
325
326 AGCCCCTGCA AGTGTTGACC CTAAATATAG AAGATGAGCA TCGGCTACAT
--> 327 GAGACCTCAA 2640
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329 AAGAGCCAGA TGTTTCTCTA GGGTCCACAT GGCTGTCTGA TTTTCCTCAG
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332 AAACCGGGGG CATGGGACTG GCAGTTCGCC AAGCTCCTCT GATCATACCT
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--> 339 TCCCCCTGGA 2880
340
341 ACACGCCCCT GCTACCCGTT AAGAAACCAG GGACTAATGA TTATAGGCCT
--> 342 GTCCAGGATC 2940
343
344 TGAGAGAAGT CAACAAGCGG GTGGAAGACA TCCACCCAC CGTGCCCAAC
--> 345 CCTTACAACC 3000
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347 TCTTGAGCGG GCTCCCACCG TCCCACCAGT GGTACACTGT GCTTGATTTA
--> 348 AAGGATGCCT 3060
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350 TTTTCTGCCT GAGACTCCAC CCCACCAGTC AGCCTCTCTT CGCCTTTGAG
--> 351 TGGAGAGATC 3120
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--> 354 TTCAAAAACA 3180
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356 GTCCCACCCT GTTTGATGAG GCACTGCACA GAGACCTAGC AGACTTCCGG
--> 357 ATCCAGCACC 3240
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359 CAGACTTGAT CCTGCTACAG TACGTGGATG ACTTACTGCT GGCCGCCACT
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362 ACTGCCAACA AGGTACTCGG GCCCTGTTAC AAACCCTAGG GAACCTCGGG
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365 CGGCCAAGAA AGCCCAAATT TGCCAGAAAC AGGTCAAGTA TCTGGGGTAT
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368 AGGGTCAGAG ATGGCTGACT GAGGCCAGAA AAGAGACTGT GATGGGGCAG
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371 AGACCCCTCG ACAACTAAGG GAGTTCCTAG GGACGGCAGG CTTCTGTCGC
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374 CTGGGTTTGC AGAAATGGCA GCCCCCTTGT ACCCTCTCAC CAAAACGGGG
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377 ATTGGGGCCC AGACCAACAA AAGGCCTATC AAGAAATCAA GCAAGCTCTT
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380 CAGCCCTGGG GTTGCCAGAT TTGACTAAGC CCTTTGAACT CTTTGTCGAC
--> 381 GAGAAGCAGG 3720
382
383 GCTACGCCAA AGGTGTCCTA ACGCAAAAAC TGGGACCTTG GCGTCGGCCG
--> 384 GTGGCCTACC 3780
385
386 TGTCCAAAAA GCTAGACCCA GTAGCAGCTG GGTGGCCCCC TTGCCTACGG

Done

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:36:57

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--> 393 CTTTCCAACG 3960
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395 CCCGGATGAC TCACTATCAG GCCTTGCTTT TGGACACGGA CCGGGTCCAG
--> 396 TTCGGACCGG 4020
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--> 402 CAGCCGCTCC 4140
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407 AGGCGGGAGC TGCGGTGACC ACCGAGACCG AGGTAATCTG GGCTAAAGCC
--> 408 CTGCCAGCCG 4260
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410 GGACATCCGC TCAGCGGGCT GAACTGATAG CACTCACCCA GGCCCTAAAG
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413 GTAAGAAGCT AAATGTTTAT ACTGATAGCC GTTATGCTTT TGCTACTGCC
--> 414 CATATCCATG 4380
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416 GAGAAATATA CAGAAGGCGT GGGTTGCTCA CATCAGAAGG CAAAGAGATC
--> 417 AAAAATAAAG 4440
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419 ACGAGATCTT GGCCCTACTA AAAGCCCTCT TTCTGCCCAA AAGACTTAGC
--> 420 ATAATCCATT 4500
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422 GTCCAGGACA TCAAAGGGA CACAGCGCCG AGGCTAGAGG CAACCGGATG
--> 423 GCTGACCAAG 4560
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425 CGGCCCCGAAA GGCAGCCATC ACAGAGACTC CAGACACCTC TACCCTCCTC
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428 CATCACCTTA CACCTCAGAA CATTTTCATT ACACAGTGAC TGATATAAAG
--> 429 GACCTAACCA 4680
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431 AGTTGGGGGC CATTTATGAT AAAACAAAGA AGTATTGGGT CTACCAAGGA
--> 432 AAACCTGTGA 4740
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434 TGCCTGACCA GTTTACTTTT GAATTATTAG ACTTTCTTCA TCAGCTGACT
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437 TCTCAAAAAT GAAGGCTCTC CTAGAGAGAA GCCACAGTCC CTA CTACATG
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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:36:59

INPUT SET: S23358.raw

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446 TCGATTTTAC CGAGATAAAG CCCGGATTGT ATGGCTATAA ATATCTTCTA
--> 447 GTTTTTATAG 5040
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449 ATACCTTTTC TGGCTGGATA GAAGCCTTCC CAACCAAGAA AGAAACCGCC
--> 450 AAGGTCGTAA 5100
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452 CCAAGAAGCT ACTAGAGGAG ATCTTCCCCA GGTTCCGGCAT GCCTCAGGTA
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455 ACAATGGGCC TGCCTTCGTC TCCAAGGTGA GTCAGACAGT GGCCGATCTG
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458 ATTGGAAATT ACATTGTGCA TACAGACCCC AAAGCTCAGG CCAGGTAGAA
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461 GAACCATCAA GGAGACTTTA ACTAAATTAA CGCTTGCAAC TGGCTCTAGA
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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
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500 CCCTTTTTCT TCTCCCCCGG GGCCCCCTTG TTGCTCAGGG GGCAGCAGCC
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RAW SEQUENCE LISTING
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TIME: 11:37:04

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569 TGCTGCTCTA AAAGAAGAAT GTTGCTTCTA TGCGGACCAC ACAGGACTAG
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575 ATGGTTTGAG GGACTGTTTA ACAGATCCCC TTGGTTTACC ACCTTGATAT
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578 GGGACCCCTC ATTGTACTCC TAATGATTTT GCTCTTCGGA CCCTGCATTC
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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
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608 TGCTCCCCGA GCTCAATAAA AGAGCCCACA ACCCTCACT CGGGGCGCCA
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612 8332
613

714 (2) INFORMATION FOR SEQ ID NO:26:
715 (i) SEQUENCE CHARACTERISTICS:
--> 716 (A) LENGTH: 51 base pairs
717 (B) TYPE: nucleic acid
718 (C) STRANDEDNESS: single
719 (D) TOPOLOGY: linear
720 (ii) MOLECULE TYPE: DNA (genomic)
721 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:
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724
725

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730 (C) STRANDEDNESS: single
731 (D) TOPOLOGY: linear
732 (ii) MOLECULE TYPE: DNA (genomic)
733 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:
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735 49
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--> 901 (A) LENGTH: 9080 base pairs
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903 (C) STRANDEDNESS: single
904 (D) TOPOLOGY: linear
905 (ii) MOLECULE TYPE: DNA (genomic)
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PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:37:09

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--> 914 TTCTGCTTTA 240
915 GTGCCACCAG AAGATACTAC CTGGGTGCAG TGGAAGTGTG ATGGGACTAT
--> 916 ATGCAAAGTG 300
917 ATCTCGGTGA GCTGCCTGTG GACGCAAGAT TTCCTCCTAG AGTGCCAAAA
--> 918 TCTTTTCCAT 360
919 TCAACACCTC AGTCGTGTAC AAAAAGACTC TGTTTGTAGA ATTCACGGAT
--> 920 CACCTTTTCA 420
921 ACATCGCTAA GCCAAGGCCA CCCTGGATGG GTCTGCTAGG TCCTACCATC
--> 922 CAGGCTGAGG 480
923 TTTATGATAC AGTGGTCATT ACACTTAAGA ACATGGCTTC CCATCCTGTC
--> 924 AGTCTTCATG 540
925 CTGTTGGTGT ATCCTACTGG AAAGCTTCTG AGGGAGCTGA ATATGATGAT
--> 926 CAGACCAGTC 600
927 AAAGGGAGAA AGAAGATGAT AAAGTCTTCC CTGGTGGAAG CCATACATAT
--> 928 GTCTGGCAGG 660
929 TCCTGAAAGA GAATGGTCCA ATGGCCTCTG ACCCACTGTG CCTTACCTAC
--> 930 TCATATCTTT 720
931 CTCATGTGGA CCTGGTAAAA GACTTGAATT CAGGCCTCAT TGGAGCCCTA
--> 932 CTAGTATGTA 780
933 GAGAAGGGAG TCTGGCCAAG GAAAAGACAC AGACCTTGCA CAAATTTATA
--> 934 CTACTTTTTG 840
935 CTGTATTTGA TGAAGGGAAA AGTTGGCACT CAGAAACAAA GAACTCCTTG
--> 936 ATGCAGGATA 900
937 GGGATGCTGC ATCTGCTCGG GCCTGGCCTA AAATGCACAC AGTCAATGGT
--> 938 TATGTAAACA 960
939 GGTCTCTGCC AGGTCTGATT GGATGCCACA GGAAATCAGT CTATTGGCAT
--> 940 GTGATTGGAA 1020
941 TGGGCACCAC TCCTGAAGTG CACTCAATAT TCCTCGAAGG TCACACATTT
--> 942 CTTGTGAGGA 1080
943 ACCATCGCCA GCGCTCCTTG GAAATCTCGC CAATAACTTT CCTTACTGCT
--> 944 CAAACACTCT 1140
945 TGATGGACCT TGGACAGTTT CTACTGTTTT GTCATATCTC TTCCCACCAA
--> 946 CATGATGGCA 1200
947 TGGAAGCTTA TGTCAAAGTA GACAGCTGTC CAGAGGAACC CCAACTACGA
--> 948 ATGAAAAATA 1260
949 ATGAAGAAGC GGAAGACTAT GATGATGATC TTAAGTATTC TGAAATGGAT
--> 950 GTGGTCAGGT 1320
951 TTGATGATGA CAACTCTCCT TCCTTTATCC AAATTCGCTC AGTTGCCAAG
--> 952 AAGCATCCTA 1380
953 AAACCTGGGT ACATTACATT GCTGCTGAAG AGGAGGACTG GGACTATGCT
--> 954 CCCTTAGTCC 1440
955 TCGCCCCCGA TGACAGAAGT TATAAAAGTC AATATTTGAA CAATGGCCCT
--> 956 CAGCGGATTG 1500
957 GTAGGAAGTA CAAAAAAGTC CGATTTATGG CATAACACAGA TGAAACCTTT
--> 958 AAGACTCGTG 1560
959 AAGCTATTCA GCATGAATCA GGAATCTTGG GACCTTTACT TTATGGGGAA
--> 960 GTTGGAGACA 1620
961 CACTGTTGAT TATATTTAAG AATCAAGCAA GCAGACCATA TAACATCTAC
--> 962 CCTCACGGAA 1680
963 TCACTGATGT CCGTCCTTTG TATTCAAGGA GATTACCAA AGGTGTAAAA

Adm

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:37:12

INPUT SET: S23358.raw

--> 964 CATTGAAGG 1740
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--> 968 GTTAATATGG 1860
969 AGAGAGATCT AGCTTCAGGA CTCATTGGCC CTCTCCTCAT CTGCTACAAA
--> 970 GAATCTGTAG 1920
971 ATCAAAGAGG AAACCAGATA ATGTCAGACA AGAGGAATGT CATCCTGTTT
--> 972 TCTGTATTTG 1980
973 ATGAGAACCG AAGCTGGTAC CTCACAGAGA ATATACAACG CTTTCTCCCC
--> 974 AATCCAGCTG 2040
975 GAGTGCAGCT TGAGGATCCA GAGTTCCAAG CCTCCAACAT CATGCACAGC
--> 976 ATCAATGGCT 2100
977 ATGTTTTTGA TAGTTTGCAG TTGTCAGTTT GTTTGCATGA GGTGGCATAC
--> 978 TGGTACATTC 2160
979 TAAGCATTGG AGCACAGACT GACTTCCTTT CTGTCTTCTT CTCTGGATAT
--> 980 ACCTTCAAAC 2220
981 ACAAATGGT CTATGAAGAC AACTCACCC TATTCCCATT CTCAGGAGAA
--> 982 ACTGTCTTCA 2280
983 TGTCGATGGA AAACCCAGGT CTATGGATTC TGGGGTGCCA CAACTCAGAC
--> 984 TTTCGGAACA 2340
985 GAGGCATGAC CGCCTTACTG AAGGTTTCTA GTTGTGACAA GAACACTGGT
--> 986 GATTATTACG 2400
987 AGGACAGTTA TGAAGATATT TCAGCATACT TGCTGAGTAA AAACAATGCC
--> 988 ATTGAACCAA 2460
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--> 990 AATGCCACCA 2520
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--> 992 ACACCTATGC 2580
993 CTAAAATACA AAATGTCTCC TCTAGTGATT TGTGATGCT CTTGCGACAG
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999 AGCTCCATCA CAGTGGGGAC ATGGTATTTA CCCCTGAGTC AGGCCTCCAA
--> 1000 TTAAGATTAA 2820
1001 ATGAGAAACT GGGGACAACCT GCAGCAACAG AGTTGAAGAA ACTTGATTTC
--> 1002 AAAGTTTCTA 2880
1003 GTACATCAAA TAATCTGATT TCAACAATTC CATCAGACAA TTTGGCAGCA
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1005 ATACAAGTTC CTTAGGACCC CCAAGTATGC CAGTTCATTA TGATAGTCAA
--> 1006 TTAGATACCA 3000
1007 CTCTATTTGG CAAAAGTCA TCTCCCCTTA CTGAGTCTGG TGGACCTCTG
--> 1008 AGCTTGAGTG 3060
1009 AAGAAAATAA TGATTCAAAG TTGTTAGAAT CAGGTTTAAT GAATAGCCAA
--> 1010 GAAAGTTCAT 3120
1011 GGGGAAAAAA TGTATCGTCA ACAGAGAGTG GTAGGTATT TAAAGGGAAA
--> 1012 AGAGCTCATG 3180
1013 GACCTGCTTT GTTGACTAAA GATAATGCCT TATTCAAAGT TAGCATCTCT
--> 1014 TTGTTAAAGA 3240
1015 CAAACAAAAC TTCCAATAAT TCAGCAACTA ATAGAAAGAC TCACATTGAT
--> 1016 GGCCCATCAT 3300

Sam

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:37:15

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1021 GGCTAAATCA TATGTCAAAT AAAACTACTT CATCAAAAAA CATGGAAATG
--> 1022 GTCCAACAGA 3480
1023 AAAAAGAGGG CCCCATTTCCA CCAGATGCAC AAAATCCAGA TATGTCGTTC
--> 1024 TTTAAGATGC 3540
1025 TATTCTTGCC AGAATCAGCA AGGTGGATAC AAAGGACTCA TGGAAAGAAC
--> 1026 TCTCTGAACT 3600
1027 CTGGGCAAGG CCCCAGTCCA AAGCAATTAG TATCCTTAGG ACCAGAAAAA
--> 1028 TCTGTGGAAG 3660
1029 GTCAGAATTT CTTGTCTGAG AAAAACAAAG TGGTAGTAGG AAAGGGTGAA
--> 1030 TTTACAAAGC 3720
1031 ACGTAGGACT CAAAGAGATG GTTTTTCCAA GCAGCAGAAA CCTATTTCTT
--> 1032 ACTAACTTGG 3780
1033 ATAATTTACA TGAAAATAAT ACACACAATC AAGAAAAAAA AATTCAGGAA
--> 1034 GAAATAGAAA 3840
1035 AGAAGGAAAC ATTAATCCAA GAGAATGTAG TTTTGCCTCA GATACATACA
--> 1036 GTGACTGGCA 3900
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--> 1038 GAAGGTTTCA 3960
1039 ATGACGGGGC ATATGCTCCA GTACTTCAAG ATTTTAGGTC ATTAAATGAT
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1041 GAACAAAGAA ACACACAGCT CATTTCTCAA AAAAAGGGGA GGAAGAAAAC
--> 1042 TTGGAAGGCT 4080
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--> 1044 ATATCTCCTA 4140
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--> 1048 TCAACCCAGT 4260
1049 GGTCCTAAAA CATGAAACAT TTGACCCCGA GCACCCTCAC ACAGATAGAC
--> 1050 TACAATGAGA 4320
1051 AGGAGAAAGG GGCCATTACT CAGTCTCCCT TATCAGATTG CCTTACGAGG
--> 1052 AGTCATAGCA 4380
1053 TCCCTCAAGC AAATAGATCT CCATTACCCA TTGCAAAGGT ATCATCATTT
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1055 GACCTATATA TCTGACCAGG GTCCTATTCC AAGACAACTC TTCTCATCTT
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1067 TCGTGGAAGG GAGCCTTCTT CAGGGAACAG AGGGAGCGAT TAAGTGGAAT
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PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:37:17

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--> 1074 ACCATTTTGT 5040
1075 CCCTGAACGC TTGTGAAAGC AATCATGCAA TAGCAGCAAT AAATGAGGGA
--> 1076 CAAAATAAGC 5100
1077 CCGAAATAGA AGTCACCTGG GCAAAGCAAG GTAGGACTGA AAGGCTGTGC
--> 1078 TCTCAAAACC 5160
1079 CACCAGTCTT GAAACGCCAT CAACGGGAAA TAACTCGTAC TACTCTTCAG
--> 1080 TCAGATCAAG 5220
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--> 1082 TTTGACATTT 5280
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--> 1086 GTTCTAAGAA 5400
1087 ACAGGGCTCA GAGTGGCAGT GTCCCTCAGT TCAAGAAAGT TGTTTTCCAG
--> 1088 GAATTTACTG 5460
1089 ATGGCTCCTT TACTCAGCCC TTATACCGTG GAGAACTAAA TGAACATTTG
--> 1090 GGACTCCTGG 5520
1091 GGCCATATAT AAGAGCAGAA GTTGAAGATA ATATCATGGT AACTTTCAGA
--> 1092 AATCAGGCCT 5580
1093 CTCGTCCCTA TTCCTTCTAT TCTAGCCTTA TTTCTTATGA GGAAGATCAG
--> 1094 AGGCAAGGAG 5640
1095 CAGAACCTAG AAAAAACTTT GTCAAGCCTA ATGAAACCAA AACTTACTTT
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1101 CTAACACACT GAACCCTGCT CATGGGAGAC AAGTGACAGT ACAGGAATTT
--> 1102 GCTCTGTTTT 5880
1103 TCACCATCTT TGATGAGACC AAAAGCTGGT ACTTCACTGA AAATATGGAA
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--> 1110 CATTTCAAGT 6120
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--> 1112 AATCTCTATC 6180
1113 CAGGTGTTTT TGAGACAGTG GAAATGTTAC CATCCAAAGC TGGAATTTGG
--> 1114 CGGGTGGAAT 6240
1115 GCCTTATTGG CGAGCATCTA CATGCTGGGA TGAGCACACT TTTTCTGGTG
--> 1116 TACAGCAATA 6300
1117 AGTGTGAGAC TCCCCTGGGA ATGGCTTCTG GACACATTAG AGATTTTCAG
--> 1118 ATTACAGCTT 6360
1119 CAGGACAATA TGGACAGTGG GCCCCAAAGC TGGCCAGACT TCATTATTCC
--> 1120 GGATCAATCA 6420
1121 ATGCCTGGAG CACCAAGGAG CCCTTTTCTT GGATCAAGGT GGATCTGTTG
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--> 1126 GGAAATTCCA 6600
1127 CTGGAACCTT AATGGTCTTC TTTGGCAATG TGGATTTCATC TGGGATAAAA
--> 1128 CACAATATTT 6660
1129 TTAACCCTCC AATTATTGCT CGATACATCC GTTTGCACCC AACTCATTAT
--> 1130 AGCATTGCGA 6720
1131 GCACTCTTCG CATGGAGTTG ATGGGCTGTG ATTTAAATAG TTGCAGCATG
--> 1132 CCATTGGGAA 6780
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--> 1134 ACCAATATGT 6840
1135 TTGCCACCTG GTCTCCTTCA AAAGCTCGAC TTCACCTCCA AGGGAGGAGT
--> 1136 AATGCCTGGA 6900
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--> 1138 ACAATGAAAG 6960
1139 TCACAGGAGT AACTACTCAG GGAGTAAAT CTCTGCTTAC CAGCATGTAT
--> 1140 GTGAAGGAGT 7020
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--> 1142 AATGGCAAAG 7080
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--> 1144 CTAGACCCAC 7140
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--> 1148 CTGCAGCACC 7260
1149 TGCCACTGCC GTCACCTCTC CCTCCTCAGC TCCAGGGCAG TGTCCCTCCC
--> 1150 TGGCTTGCCT 7320
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--> 1152 TAACTATCAT 7380
1153 CAGTCCTGCA TTTCTTTGGT GGGGGGCCAG GAGGGTGCAT CCAATTTAAC
--> 1154 TTAACCTTTA 7440
1155 CCTATTTTCT GCAGCTGCTC CCAGATTACT CCTTCCTTCC AATATAACTA
--> 1156 GGCAAAAAGA 7500
1157 AGTGAGGAGA AACCTGCATG AAAGCATTCT TCCCTGAAAA GTTAGGCCTC
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1159 CACTTCCTCT GTTGTAGAAA AACTATGTGA TGAAACTTTG AAAAAGATAT
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1161 AACATTTTCT GTTAAGCCTC ATACGTTTAA AATAAACTC TCAGTTGTTT
--> 1162 ATTATCCTGA 7680
1163 TCAAGCATGG AACAAAGCAT GTTTCAGGAT CAGATCAATA CAATCTTGGA
--> 1164 GTCAAAAAGG 7740
1165 AAATCATTTG GACAATCTGC AAAATGGAGA GAATACAATA ACTACTACAG
--> 1166 TAAAGTCTGT 7800
1167 TTCTGCTTCC TTACACATAG ATATAATTAT GTTATTTAGT CATTATGAGG
--> 1168 GGCACATTCT 7860
1169 TATCTCCAAA ACTAGCATTC TTAAACTGAG AATTATAGAT GGGGTTC AAG
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1171 TCCCCTGAAA TTATATAAGG CATTCTGTAT AAATGCAAAT GTGCATTTTT
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1173 TCCATAGATA TAAAGCCATT TGGTCTTAAT TCTGACCAAT AAAAAAATAA
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TIME: 11:37:23

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--> 1176 GTGATGGCCA 8100
1177 AGAAAGAAAA TGATGATGAC ATTAGGCTTC TAAAGGACAT ACATTTAATA
--> 1178 TTTCTGTGGA 8160
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--> 1180 ATTCTAATAA 8220
1181 TGCACCTCAGT TTACTCTCTC CCTCTACTAA TTTCCTGCTG AAAATAACAC
--> 1182 AACAAAAATG 8280
1183 TAACAGGGGA AATTATATAC CGTGACTGAA AACTAGAGTC CTAATTACAT
--> 1184 AGTTGAAATA 8340
1185 TCAAGGAGGT CAGAAGAAAA TTGGACTGGT GAAACAGAA AAAACACTCC
--> 1186 AGTCTGCCAT 8400
1187 ATCACCACAC AATAGGATCC CCCTTCTTGC CCTCCACCCC CATAAGATTG
--> 1188 TGAAGGGTTT 8460
1189 ACTGCTCCTT CCATCTGCCT GACCCCTTCA CTATGACTAC ACAGAATCTC
--> 1190 CTGATAGTAA 8520
1191 AGGGGGCTGG AGGCAAGGAT AAGTTATAGA GCAGTTGGAG GAAGCATCCA
--> 1192 AAGATTGCAA 8580
1193 CCCAGGGCAA ATGGAAAACA GGAGATCCTA ATATGAAAGA AAAATGGATC
--> 1194 CCAATCTGAG 8640
1195 AAAAGGCAAA AGAATGGCTA CTTTTTTCTA TGCTGGAGTA TTTTCTAATA
--> 1196 ATCCTGCTTG 8700
1197 ACCCTTATCT GACCTCTTTG GAAACTATAA CATAGCTGTC ACAGTATAGT
--> 1198 CACAATCCAC 8760
1199 AAATGATGCA GGTGCAAATG GTTTATAGCC CTGTGAAGTT CTTAAAGTTT
--> 1200 AGAGGCTAAC 8820
1201 TTACAGAAAT GAATAAGTTG TTTTGTTTTA TAGCCCGGTA GAGGAGTTAA
--> 1202 CCCCAAAGGT 8880
1203 GATATGGTTT TATTTCTGTG TATGTTTAACT TTAATAATCT TATTTTGGCA
--> 1204 TTCTTTTCCC 8940
1205 ATTGACTATA TACATCTCTA TTTCTCAAAT GTTCATGGAA CTAGCTCTTT
--> 1206 TATTTTCTCTG 9000
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1209 AAAAAAAAAA AAAAAAAAAA
1210

9080

1662 (2) INFORMATION FOR SEQ ID NO:46:
1663 (i) SEQUENCE CHARACTERISTICS:
--> 1664 (A) LENGTH: 4832 base pairs
1665 (B) TYPE: nucleic acid
1666 (C) STRANDEDNESS: single
1667 (D) TOPOLOGY: linear
1668 (ii) MOLECULE TYPE: DNA (genomic)
1669 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:
1670 CTCGAGCTAA AGATATTTTA GAGAAGAATT AACCTTTTGC TTCTCCAGTT
--> 1671 GAACATTTGT 60
1672 AGCAATAAGT CATGCAAATA GAGCTCTCCA CCTGCTTCTT TCTGTGCCTT
--> 1673 TTGCGATTCT 120
1674 GCTTTAGTGC CACCAGAAGA TACTACCTGG GTGCAGTGGA ACTGTCATGG
--> 1675 GACTATATGC 180
1676 AAAGTGATCT CGGTGAGCTG CCTGTGGACG CAAGATTTCC TCCTAGAGTG
--> 1677 CCAAAATCTT 240
1678 TTCCATTCAA CACCTCAGTC GTGTACAAAA AGACTCTGTT TGTAGAATTC

last sequence in file
same

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:37:25

INPUT SET: S23358.raw

--> 1679 **ACGGATCACC** 300
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--> 1683 **CCTGTCAGTC** 420
1684 TTCATGCTGT TGGTGTATCC TACTGGAAAG CTTCTGAGGG AGCTGAATAT
--> 1685 **GATGATCAGA** 480
1686 CCAGTCAAAG GGAGAAAGAA GATGATAAAG TCTTCCCTGG TGGAAGCCAT
--> 1687 **ACATATGTCT** 540
1688 GGCAGGTCCT GAAAGAGAAT GGTCCAATGG CCTCTGACCC ACTGTGCCTT
--> 1689 **ACCTACTCAT** 600
1690 ATCTTTCTCA TGTGGACCTG GTAAAAGACT TGAATTCAGG CCTCATTGGA
--> 1691 **GCCCTACTAG** 660
1692 TATGTAGAGA AGGGAGTCTG GCCAAGGAAA AGACACAGAC CTTGCACAAA
--> 1693 **TTTATACTAC** 720
1694 TTTTGTCTGT ATTTGATGAA GGGAAAAGTT GGCCTCAGA AACAAAGAAC
--> 1695 **TCCTTGATGC** 780
1696 AGGATAGGGA TGCTGCATCT GCTCGGGCCT GGCCTAAAAT GCACACAGTC
--> 1697 **AATGGTTATG** 840
1698 TAAACAGGTC TCTGCCAGGT CTGATTGGAT GCCACAGGAA ATCAGTCTAT
--> 1699 **TGGCATGTGA** 900
1700 TTGGAATGGG CACCACTCCT GAAGTGCACT CAATATTCCT CGAAGGTCAC
--> 1701 **ACATTTCTTG** 960
1702 TGAGGAACCA TCGCCAGGCG TCCTTGGAAG TCTCGCCAAT AACTTTCCTT
--> 1703 **ACTGCTCAAA** 1020
1704 CACTCTTGAT GGACCTTGGA CAGTTTCTAC TGTTTTGTCA TATCTCTTCC
--> 1705 **CACCAACATG** 1080
1706 ATGGCATGGA AGCTTATGTC AAAGTAGACA GCTGTCCAGA GGAACCCCAA
--> 1707 **CTACGAATGA** 1140
1708 AAAATAATGA AGAAGCGGAA GACTATGATG ATGATCTTAC TGATTCTGAA
--> 1709 **ATGGATGTGG** 1200
1710 TCAGGTTTGA TGATGACAAC TCTCCTTCCT TTATCCAAAT TCGCTCAGTT
--> 1711 **GCCAAGAAGC** 1260
1712 ATCCTAAAAC TTGGGTACAT TACATTGCTG CTGAAGAGGA GGACTGGGAC
--> 1713 **TATGCTCCCT** 1320
1714 TAGTCCTCGC CCCCAGTGAC AGAAGTTATA AAAGTCAATA TTTGAACAAT
--> 1715 **GGCCCTCAGC** 1380
1716 GGATTGGTAG GAAGTACAAA AAAGTCCGAT TTATGGCATA CACAGATGAA
--> 1717 **ACCTTTAAGA** 1440
1718 CTCGTGAAGC TATTCAGCAT GAATCAGGAA TCTTGGGACC TTTACTTTAT
--> 1719 **GGGGAAGTTG** 1500
1720 GAGACACACT GTTGATTATA TTTAAGAATC AAGCAAGCAG ACCATATAAC
--> 1721 **ATCTACCCTC** 1560
1722 ACGGAATCAC TGATGTCCGT CCTTTGTATT CAAGGAGATT ACCAAAAGGT
--> 1723 **GTAAAACATT** 1620
1724 TGAAGGATTT TCCAATTCTG CCAGGAGAAA TATTCAAATA TAAATGGACA
--> 1725 **GTGACTGTAG** 1680
1726 AAGATGGGCC AACTAAATCA GATCCTCGGT GCCTGACCCG CTATTACTCT
--> 1727 **AGTTTCGTTA** 1740
1728 ATATGGAGAG AGATCTAGCT TCAGGACTCA TTGGCCCTCT CCTCATCTGC
--> 1729 **TACAAAGAAT** 1800
1730 CTGTAGATCA AAGAGGAAAC CAGATAATGT CAGACAAGAG GAATGTCATC
--> 1731 **CTGTTTTCTG** 1860

None

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/001,039DATE: 02/10/98
TIME: 11:37:28

INPUT SET: S23358.raw

1732 TATTTGATGA GAACCGAAGC TGGTACCTCA CAGAGAATAT ACAACGCTTT
--> 1733 CTCCCCAATC 1920
1734 CAGCTGGAGT GCAGCTTGAG GATCCAGAGT TCCAAGCCTC CAACATCATG
--> 1735 CACAGCATCA 1980
1736 ATGGCTATGT TTTTGATAGT TTGCAGTTGT CAGTTTGTTT GCATGAGGTG
--> 1737 GCATACTGGT 2040
1738 ACATTCTAAG CATTGGAGCA CAGACTGACT TCCTTTCTGT CTTCTTCTCT
--> 1739 GGATATACCT 2100
1740 TCAAACACAA AATGGTCTAT GAAGACACAC TCACCCTATT CCCATTCTCA
--> 1741 GGAGAAACTG 2160
1742 TCTTCATGTC GATGGAAAAC CCA

Application No.: C9/001039

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☐ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☒ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☐ 7. Other: _____

Applicant Must Provide:

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216

For CRF Submission Help, call (703) 308-4212

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